

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings of claims in the application:

Listing of Claims:

Please amend Claims 1 and 6 and add new Claims 21 and 22, as shown in the following listing of claims.

1. (Currently Amended) A stereo camera apparatus comprising:

a main camera for taking a photograph of an object; and

a sub-camera for taking a photograph of said object from a point of view different from a point of view of said main camera, said main camera and said sub-camera being disposed with respect to each other by a predetermined spacing,

a shooting direction of said stereo camera is substantially perpendicular to said predetermined spacing in a baseline between the main camera and the sub-camera,

image processing means for calculating a three-dimensional distance distribution of said object based on a positional difference between a region in a reference image photographed by said main camera and a corresponding area in a comparative image photographed by said sub-camera to an image signal of said region,

wherein said corresponding area is searched in a striplike search area having a predetermined length which extends from a position substantially corresponding to said region, said positional difference is obtained from an area which is capable of setting said search area inside of said comparative image,

wherein optical axes of said main camera and said sub-camera are inclined toward the main camera side with a predetermined angle with respect to the shooting direction defined by each of the optical axes and the shooting direction,

wherein angles of inclination of said main camera and said sub-camera are set to be such angles that said three-dimensional distance distribution is substantially left-right symmetric with respect to the shooting direction.

2. (Cancelled)

3. (Previously Presented) The stereo camera apparatus as recited in claim 1, wherein the optical axis of said sub-camera is inclined toward said sub-camera side with respect to the optical axis of said main camera.

4. (Cancelled)

5. (Previously Presented) The stereo camera apparatus as recited in claim 1, further comprising:
a camera stay for mounting said cameras thereon, wherein a longitudinal direction of said camera stay is substantially perpendicular to the shooting direction.

6. (Currently Amended) The stereo camera apparatus as recited in claim 1, wherein each of said cameras is ~~made of~~ a CCD camera.

7. (Previously Presented) The stereo camera apparatus as recited in claim 1, wherein said cameras are mounted in the vicinity of a rear-view mirror of a vehicle, said cameras taking photographs of views outside the vehicle.

8. (Canceled)

9. (Previously Presented) The stereo camera apparatus as recited in claim 1,

wherein a first acute angle defined between said optical axis of said main camera and the baseline is smaller than a second acute angle defined between said optical axis of said sub-camera and the baseline.

10. (Previously Presented) The stereo camera apparatus as recited in claim 9,

wherein the first acute angle is larger than the second acute angle in order to provide a search margin in a comparative image photographed by said sub-camera to enable detection of an infinite distance corresponding point positioned at an end of said sub-camera side in a reference image taken by said main camera.

11.-12. (Cancelled)

13. (Previously Presented) The stereo camera apparatus as recited in claim 3, wherein the optical axis of said sub-camera is inclined toward said sub-camera side with respect to the optical axis of said main camera in order to provide a search margin in a comparative image

photographed by said sub-camera to enable detection of an infinite distance corresponding point positioned at an end of said sub-camera side in a reference image taken by said main camera.

14.-15. (Cancelled)

16. ((Previously Presented) The stereo camera apparatus as recited in claim 1, wherein angles of inclination of said main camera and said sub-camera are set to be such angles that make an area substantially left-right symmetric with respect to a central axis of a vehicle parallel to the shooting direction, said area being an area of three-dimensional distance distribution obtained by an image processing unit on the basis of images photographed by said cameras.

17. -20. (Cancelled)

21. (New) The stereo camera apparatus as recited in claim 1,
wherein said predetermined length of said search area is longer than length of said region.

22. (New) The stereo camera apparatus as recited in claim 1,
wherein said angles of inclination of said main camera and said sub-camera correspond to a displacement between a first line on said reference image and a second line on said reference image,

said first line is a line for setting a three-dimensional distance distribution, generating area on said reference image substantially symmetrical on left and right sides with respect to said first line in said reference image

said second line is a vertical line perpendicular to said optical axis of said main camera in said reference image.